Do you have a child in your district with a cochlear implant or hearing aid?

FACTS ABOUT COCHLEAR IMPLANTS

✓ A cochlear implant is a small, complex electronic device that can help provide a sense of sound to a person who is profoundly deaf or severely hard of hearing. The implant consists of an external portion that is worn like a hearing aid and an internal portion that is surgically placed under the skin.

The external portion includes:

- a microphone, which picks up sound from the environment;
- a speech processor, which selects and arranges sounds picked up by the microphone and converts them into electrical signals, and
- a transmitter held in place by a magnet that sends the signals via radio waves to the internal portion.

The internal portion includes:

- a magnet/receiver placed under the skin just behind and above the ear. The magnet holds the transmitter in place and the receiver transmits the signals to the electrode array.
- an electrode array, which is a group of electrodes that collects the impulses from the stimulator and sends them to different regions of the auditory nerve.

✓ A cochlear implant does not restore normal hearing. Instead, it can give a deaf person a useful representation of sounds in the environment and help him or her understand speech.

- The sounds heard through a cochlear implant do not sound the same as normal hearing.

✓ A cochlear implant is very different from a hearing aid. Hearing aids amplify sounds so they may be detected by damaged ears. Cochlear implants bypass damaged portions of the ear and directly stimulate the auditory nerve. Signals generated by the implant are sent by way of the auditory nerve to the brain, which recognizes the signals as sound.

- Hearing through a cochlear implant takes time to learn or relearn; however, it enables many people to recognize warning signals, understand other sounds in the environment and enjoy a conversation in person or by telephone.

✓ A child with a cochlear implant usually needs special education training in order to learn speech, language and other academic subjects. This is especially true for a child who was deafened before learning to talk.

✓ Intensive instruction in auditory skills helps children learn to listen and interpret what they hear through their cochlear implants.

✓ With specialized, intensive language instruction, many children who use cochlear implants and hearing aids can learn to listen and talk similarly to their peers with normal hearing.

✓ A child will benefit most from a cochlear implant and/or hearing aids in a quiet, controlled environment and/or with an FM system.

✓ Approximately 25,000 people in the United States have cochlear implants. Nearly half of all cochlear implant recipients are children. (www.nidcd.nih.gov)

✓ Cochlear implants can help an estimated 200,000 children in the United States who do not benefit from hearing aids. (Cheng et al. 2000)

Learn more about cochlear implants:

www.asha.org/public/hearing/treatment/cochlear_implant.htm

www.nidcd.nih.gov/health/hearing/coch.asp

Cheng, A.K., Rubin, H.R., Powe, N.R., Mellon, N.K., Francis, H.W. & Niparko, J.K. (2000). Cost-utility analysis of the cochlear implant in children. *Journal of the American Medical Association, 284*(7), 850–856.